What is claimed is:

1. An image processing method comprising the steps of:

generating object regions by dividing an image into objects, and generating a plurality of block regions each having a predetermined number of pixels and having a smaller area than any one of the object regions by dividing the image;

recognizing the types of the respective block regions;

totaling up occurrence frequency of each of the types of the respective block regions in each of the object regions; and

recognizing the type of each of the object regions based on a result of the totaling.

2. The image processing method according to Claim 1, further comprising the steps of:

calculating a type reliability value representing likelihood of each of the object regions being of the recognized type:

setting an image processing condition for each of the object regions by using the type reliability value and the type thereof; and

carrying out image processing on each of the object regions by using the image processing condition.

3. An image processing apparatus comprising:

object region extraction means for generating object regions by dividing an image into objects;

block region generation means for generating block

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regions each having a predetermined number of pixels and having

a smaller area than any one of the object regions, by dividing

the image;

block region recognition means for recognizing the types

5   of the respective block regions; and

object recognition means for recognizing the type of each

of the objects by totaling up occurrence frequency of each of

the types of the block regions in each of the object regions.

4.   The image processing apparatus according to Claim 3,

10   wherein the block region recognition means comprises:

block characteristic quantity extraction means for

extracting block characteristic quantities from each of the

block regions;

mapping means for mapping the block characteristic

15   quantities into a two-dimensional space; and

type output means having a type distribution map that

defines   the   types   at   respective   coordinates   in   the

two-dimensional space, the type output means for outputting the

types indicated by the type distribution map at coordinates of

20   the   block   characteristic   quantities   mapped   in   the

two-dimensional space as the types of the block regions.

5.   The image processing apparatus according to Claim 3,

wherein the two-dimensional space is a self-organizing map

wherein neurons having a learning ability are laid out in the

25   form of a matrix.

6. The image processing apparatus according to Claim 3, wherein the block characteristic quantity extraction means extracts a color component, a lightness component, and a structural component of each of the block regions as the block characteristic quantities.

7. The image processing apparatus according to Claim 3, wherein the object recognition means has a function of calculating a type reliability value representing likelihood of each of the object regions being of the recognized type, and wherein the image processing apparatus further comprises:

processing condition setting means for setting an image processing condition for each of the object regions by using the type reliability value and the type thereof found by the object recognition means; and

image processing means for carrying out image processing on each of the object regions by using the image processing condition set by the processing condition setting means.

8. The image processing apparatus according to Claim 7, wherein the processing condition setting means sets the image processing condition by calculating a processing efficiency coefficient that depends on the type reliability value and by multiplying an initial image processing condition set for each of the types of the object regions by the processing efficiency coefficient that has been calculated.

9. The image processing apparatus according to Claim 7,

wherein the object recognition means recognizes a category
representing whether each of the object regions is an artificial
object region comprising an artificial image or a natural object
region comprising a natural image, and calculates a category
reliability value representing likelihood of each of the object
regions belonging to the category, in addition to the type
reliability value.

10. The image processing apparatus according to Claim
9, wherein the processing condition setting means sets the image
processing condition for each of the object regions by using
the type reliability value and the category reliability value,
in the case where the image comprises the artificial object
region and the natural object region.

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